Product Overview

MemoSolid

It's high-end Industrial & Military Secure SSDs Provider and Manufacturer.

Mizar-S

MemoSolid Mizar-S is 2.5-inch SATA-III 6Gbps military-grade Solid State Disk with SLC NAND Flash. Mizar-S series SSDs carry 256MB DDR which brings higher performance. Mizar-S series SSDs adapt military-grade controller with advanced flash-management algorithm that guarantee the data reliability and enhance the reliability and durability of SSD. Mizar-S supports integral power fail protection, to ensure that all system and user data will be written back to the NAND from DDR. Mizar-S can support all kinds of military secure erase protocols, such as NSA130-2, NSA 9-12, IRIG, AR380-19, DoD 5220.22-M NISPOM, NAVSO P-5239-26, AFSSI-5020...etc.

Applications

MemoSolid military grade rugged Mizar-S SSDs are designed to meet the needs of mission-critical applications in the defense, aerospace, industrial and embedded markets where high shock, vibration and High-low temperature tolerances are as important as high Read &Write performance and long-term reliability. The MemoSolid Military-grade rugged Mizar-S drive also support all kinds of military secure erase protocols, such as NSA130-2, NSA 9-12, IRIG, AR380-19, DoD 5220.22-M NISPOM, NAVSO P-5239-26, AFSSI-5020...etc.

Integral Power Fail protection

A high-reliability power back-up system protects against data loss and corruption in the event of unexpected power interruptions. Mizar-S series is designed with a 3F industrial-grade Capacitor, which supports Integral Power Fail Protection under extreme environments. It supports at least 3 Seconds of power supply, so as to ensure that all systems and user data will be written back to the NAND from DDR. The super capacitor inside Mizar-S drive will never occur liquid leaking accident, which is very dangerous in military devices.

Features

- AES 256 Encryption
- Rugged and conformal coating
- Integral power fail protection
- Military protocols Secure Erase (Optional)

Mizar SLC SSD Family

Model Name	Available Capacity	Performance
Mizar-S	30/60/120/240/480/600GB	470/470 MB/s
Mizar-S-FE	30/60/120/240/480/600GB	470/470 MB/s

Mizar-S SATA Specifications

2.5-inch SATA-III SLC Military Grade SSD	
Performance	
Access time	0.1 ms
Sustained Read/Write	470/ 470 MB/s
Random IOPS Read/Write	55000/ 60000
Capacity	
SLC	30, 60, 120, 240, 480, 600GB
Reliability	
MTBF	> 2 000 000 hours, Telcordia 25°C
Data Reliability	< 1 non-recoverable error in 10^{14} bits read
Data Retention	> 10 years at 25°C
Warranty	3 Years
Power	
Input Voltage	5 V +/-5%
Idle (typ)	0.3 W
Operational (typ)	2 W
Environmental	
Operating Shock	1500G peak, 0.5ms, Half sine
Vibration	20G peak, 20Hz to 2000Hz, Sine
Altitude	24,384 m [80,000 ft.]
Relative Humidity[3]	5% to 95% non-condensing
Conformal Coating	Yes
Operating Temp	Industrial -40°C to +85°C
Storage Temp	-55°C to 95°C
Mechanical	
Length	100 mm
Width	70 mm
Height	9.4 mm

Mizar SLC SSD Ordering Information

Model number	Capacity (GB)	Remark
Mizar-S30	30	Standard without secure erase function
Mizar-S60	60	Standard without secure erase function
Mizar-S120	120	Standard without secure erase function
Mizar-S240	240	Standard without secure erase function
Mizar-S480	480	Standard without secure erase function
Mizar-S600	600	Standard without secure erase function
Mizar-S30-FE	30	Product with secure erase function
Mizar-S60-FE	60	Product with secure erase function
Mizar-S120-FE	120	Product with secure erase function
Mizar -S240-FE	240	Product with secure erase function
Mizar-S480-FE	480	Product with secure erase function
Mizar-S600-FE	600	Product with secure erase function

Mizar-S Military protocols Secure Erase Specifications

ATA Command	Protocol Name	Description
F4h-0000	Fast erase	Erase all blocks, overwrite all locations with 0xFF
F4h-0001	DoD 5220.22-M NISPOM 8-306	Erase all blocks then overwrite all addressable locations with a single character “0x53”, then perform erase of all blocks
F4h-0010	DoD 5220.22-M NISPOM Supplement1	Erase all blocks, overwrite with “0x53”, Erase all blocks, and then overwrite with “0xAC”. Erase, overwrite with a pseudo-random character
F4h-0100	NSA130-2	Erase all blocks and overwrite all locations with a pseudo-random pattern two times, erase all blocks and overwrite with a pattern “0xAA”.
F4h-0110	AR380-19	Erase all blocks; overwrite all locations with a pseudo-random character. Erase all blocks, overwrite with “0x65”, erase all blocks, and overwrite with 0x9A.
F4h-1000	NAVSO P-5239-26	Erase all blocks; overwrite all locations with a random pattern. Wait 2 minutes, erase all blocks, program all locations with another random pattern, and verify 100%.
F4h-1010	AFSSI-5020	Erase all blocks, verify then overwrite with “0x55” pattern.
F4h-1011	NSA 9-12	Erase all blocks, overwrite all locations with a pattern 0xAA and verify 0.1% of randomly chosen locations
F4h-1100	IRIG	Erase all blocks; overwrite all locations with a pattern 0x55. Erase all blocks, and then overwrite with 0xAA. Erase all blocks.

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